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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,886	10/20/2003	Che-Li Lin	LEE0021-US	2058
7590 Michael D. Bednarek Shaw Pittman LLP 1650 Tysons Boulevard McLean, VA 22102			EXAMINER ANDREWS, LEON T	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

57

Office Action Summary	Application No.		Applicant(s)	
	10/687,886		LIN, CHE-LI	
	Examiner		Art Unit	
	Leon Andrews		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) ✓ | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) ✓ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/26/03</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) filed on October 10, 2003 had been considered by the examiner (see attached PTO-1449 form or PTO/SB/08A and 08B forms).

Oath of Declaration

2. The Oath of Declaration filed October 10, 2003 claiming Foreign Priority benefits under 35 U.S.C. 119(a)-(d) of (f), or 365(b) had been considered by the examiner.

Claim Objections

3. **Claim 1** is objected to because of the following informality:
Claim 1, line14 recited "primary synchronization signal" should be – primary synchronization channel --.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 and 9-10 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

Claim 1, lines 7, 15; Claim 2, line 1; Claim 4, lines 7, 10 and Claim 9, line 1 recited “first selecting way”.

Claims 1, line 11; Claim 3, line 1; Claim 4, lines 9, 12 and Claim 10, line 1 recited “second selecting way”.

Claim 2, line 1; Claim 3, line 1 and Claim 10, line 1 recited “selectively selecting”.

It was unclear as to what was meant.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Sriram (Patent No.: US 6,665,277 B1)

Regarding Claim 1, Sriram disclosed a method (Fig. 5 showing a sequence of steps to be performed) for a mobile unit (mobile receiver, column 5, line 21) synchronizing with a base station (base station, column 4, line 66) in a WCDMA system (WCDMA communication system, column 1, line 13), said base station (base station, column 4, line 66) transmitting a signal (Fig. 2, Signal IN) to said mobile unit (mobile receiver, column 5, line 21), said signal (Fig. 2, Signal IN) having a primary synchronization channel (Fig. 5, Primary Sync Channel), a secondary synchronization channel (Fig. 5, Secondary Sync Channel), and a common pilot channel (Fig. 5, Tertiary {pilot} Sync Channel), comprising:

receiving said signal (Fig. 2, Signal IN);

sampling said signal (Fig. 2, Signal IN) to generate a sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46);

selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with a first selecting way (Fig. 7, sync using FSC) during a first period (Fig. 5, 502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502);

obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502) and said primary synchronization channel (Fig. 5, Primary Sync Channel);

selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with a second selecting way (Fig. 7, detect sequences on TSC) during a second period (Fig. 5, 504) to be a second period signal (Fig. 2, Signal is sampled, column 2, lines 45-46);

obtaining a second slot timing (Fig. 5, slot 2) and a slot synchronization signal (Fig. 2, Signal IN received at the second slot of Fig. 5, slot 2) according to said second period signal (Fig. 2, Signal is sampled, column 2, lines 45-46) and said primary synchronization signal (Fig. 2, Signal IN received at Fig. 5, 508);

selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with said first selecting way (Fig. 7, sync using FSC) during a third period (Fig. 5, slot 3) to be a third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3);

obtaining a frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510) according to said first slot timing, (Fig. 5, slot 1) said second slot timing (Fig. 5, slot 2), said slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot 1), said secondary synchronization channel (Fig. 5, Secondary Sync Channel), and said third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3); and

obtaining a scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66: Fig. 8) according to said first slot timing (Fig. 5, slot 1), said second slot timing (Fig. 5, slot 2), said frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 512), and common pilot channel (Fig. 5, Tertiary {pilot} Sync Channel) and said third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3).

Regarding Claim 2, Sriram disclosed the method (Fig. 5 showing a sequence of steps to be performed) of claim 1, wherein said first selecting way (Fig. 7, sync using FSC) is selectively selecting odd said sample signal (Fig. 2, Serial register 221, has $15 \cdot n$ stages for each successive

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sample of input signal IN, column 2, lines 47-49) and selecting even said sample signal (Serial register 291, has $240*n$ stages for each successive sample, column 2, lines 63-64).

Regarding Claim 3, Sriram disclosed the method (Fig. 5 showing a sequence of steps to be performed) of claim 1, wherein said second selecting way (Fig. 7, detect sequences on TSC) is selectively selecting odd said sample signal (Fig. 2, Serial register 221, has $15*n$ stages for each successive sample of input signal IN, column 2, lines 47-49) and selecting even said sample signal (Serial register 291, has $240*n$ stages for each successive sample, column 2, lines 63-64).

Regarding Claim 4, Sriram disclosed an apparatus for mobile unit (mobile receiver, column 5, line 21) synchronizing with a base station (base station, column 4, line 66) in a WCDMA system (WCDMA communication system, column 1, line 13), said base station (base station, column 4, line 66) transmitting a signal (Fig. 2, Signal IN) to said mobile unit (mobile receiver, column 5, line 21), said signal (Fig. 2, Signal IN) having a primary synchronization channel (Fig. 5, Primary Sync Channel), a secondary synchronization channel (Fig. 5, Secondary Sync Channel), and a common pilot channel (Fig. 5, Tertiary {pilot} Sync Channel), comprising:

- a receiving unit (mobile receiver, column 5, line 21) for receiving said signal (Fig. 2, Signal IN);

- a sampling unit (Fig. 2, 221) for sampling said signal (Fig. 2, Signal IN) to generate a sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46);

- a selecting unit (base station, column 4, line 66) for selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with a first selecting way (Fig. 7, sync using

FSC) during a first period (Fig. 5, 502) to be a first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502), selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with a second selecting way (Fig. 7, detect sequences on TSC) during a second period (Fig. 5, 504) to be a second period signal (Fig. 2, Signal IN received in second period of Fig. 5, 504), selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with said first selecting way (Fig. 7, sync using FSC) during a third period (Fig. 5, slot 3) to be a third period signal (Fig. 2, Signal IN received at third period Fig. 5, slot 3), and selecting a part of said sample signal (Fig. 2, Signal is sampled, column 2, lines 45-46) with said second selecting way (Fig. 7, detect sequences on TSC) during a fourth period (Fig. 5, slot 4) to be a fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4);

a first synchronization unit (Fig. 5, Primary Sync Channel) for obtaining a first slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot1) according to said first period signal (Fig. 2, Signal IN received in first period of Fig. 5, 502) and said primary synchronization channel (Fig. 5, Primary Sync Channel), and obtaining a second slot synchronization signal (Fig. 2, Signal IN received at Fig. 5 slot 2) according to said second period signal (Fig. 2, Signal IN received at Fig. 5, 504) and said primary synchronization channel (Fig. 5, Primary Sync Channel);

a second synchronization unit (Fig. 5, Secondary Sync Channel) for obtaining a first frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510) according to a first slot synchronization signal (Fig. 2, Signal IN received at Fig. 5, slot1), said secondary synchronization channel (Fig. 5, Secondary Sync Channel), and said third period signal (Fig. 2, Signal IN received at Fig. 5, slot 3), and obtaining a second frame synchronization signal (Fig.

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2, Signal IN received at Fig. 5, 510) according to a second slot synchronization signal (Fig. 2, Signal IN received at Fig. 5 slot 2), said secondary synchronization channel (Fig. 5, Secondary Sync Channel), and said fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4); and a third synchronization unit (Fig. 5, Tertiary Sync Channel) for obtaining a first scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) according to said first frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 512), said common pilot channel (Fig. 5, Tertiary {pilot} Sync Channel), and said third period signal (Fig. 2, Signal IN received at Fig. 5, slot 3).

Regarding Claim 5, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 4, abandoning said first scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) if said mobile unit (mobile receiver, column 5, line 21) does not synchronize with said base station (base station, column 4, line 66), and obtaining a second scrambling-code identification signal (comma free code words uniquely identify groups of sixteen scrambling codes transmitted by base station, column 4, lines 64-66; Fig. 8) according to said second frame synchronization signal (Fig. 2, Signal IN received at Fig. 5, 510), said common pilot channel (Fig. 5, Tertiary {pilot} Sync Channel) and said fourth period signal (Fig. 2, Signal IN received at Fig. 5, slot 4).

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Regarding Claim 6, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 4, said first synchronization unit (Fig. 5, Primary Sync Channel) further obtaining a first slot timing (Fig. 5, slot 1) according to said first period signal (Fig. 2, Signal IN received at Fig. 5, 502) and said primary synchronization channel (Fig. 5, Primary Sync Channel).

Regarding Claim 7, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 6, said first synchronization unit (Fig. 5, Primary Sync Channel) further obtaining a second slot timing (Fig. 5, slot 2) according to said second period signal (Fig. 2, Signal IN received at Fig. 5, 504) and said primary synchronization channel (Fig. 5, Primary Sync Channel).

Regarding Claim 8, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 7, wherein said second synchronization unit (Fig. 5, Secondary Sync Channel) obtains said second slot timing (Fig. 5, slot 2) by referring to said first slot timing (Fig. 5, slot 1) and said second slot timing (Fig. 5, slot 2).

Regarding Claim 9, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 4, wherein said first selecting way (Fig. 7, sync using FSC) is selectively selecting odd said sample signal (Fig. 2, Serial register 221, has $15*n$ stages for each successive sample of input signal IN, column 2, lines 47-49) and selecting even said sample signal (Serial register 291, has $240*n$ stages for each successive sample, column 2, lines 63-64).

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Regarding Claim 10, Sriram disclosed the apparatus (mobile receiver, column 5, line 21) of claim 4, wherein said second selecting way (Fig. 7, detect sequences on TSC) is selectively selecting odd said sample signal (Fig. 2, Serial register 221, has $15*n$ stages for each successive sample of input signal IN, column 2, lines 47-49) and selecting even said sample signal (Serial register 291, has $240*n$ stages for each successive sample, column 2, lines 63-64).

Regarding Claim 11, it is the corresponding apparatus claim to apparatus **Claim 4**. Therefore, it is rejected for the same reasons explained above.

Regarding Claim 11, Sriram disclosed an apparatus for mobile unit (mobile receiver, column 5, line 21) synchronizing with a base station in a WCDMA system, said base station transmitting a signal to said mobile unit, said signal having a primary synchronization channel, a secondary synchronization channel, and a common pilot channel, comprising:

- a receiving unit for receiving said signal;

- a sampling unit for sampling said signal to generate a sample signal;

- a selecting unit for selecting a part of said sample signal with a first selecting way during a first period to be a first period signal, selecting a part of said sample signal with a second selecting way during a second period to be a second period signal, and selecting a part of said sample signal with said first selecting way during a third period to be a third period signal;

- a first synchronization unit for obtaining a first slot timing according to said first period signal and said primary synchronization channel, and obtaining a second slot timing and a slot

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synchronization signal according to said second period signal and said primary synchronization channel;

a second synchronization unit for obtaining a frame synchronization signal and a code-group identification according to a first slot timing, said second slot timing, said slot synchronization signal, said third period signal, and said secondary synchronization channel; and

a third synchronization unit for obtaining a scrambling-code identification signal according to said frame synchronization signal, said code identification signal, said third period signal, and said common pilot channel.

Regarding **Claim 12 and 13**, they are the corresponding method claims to apparatus **Claims 9 and 10** respectively. Therefore, are rejected for the same reasons explained above.

Regarding Claim 12, Sriram disclosed the method (Fig. 5 showing a sequence of steps to be performed) of claim 11, wherein said first selecting way is selectively selecting odd said sample signal and selecting even said sample signal.

Regarding Claim 13, Sriram disclosed the method (Fig. 5 showing a sequence of steps to be performed) of claim 11, wherein said second selecting way is selectively selecting odd said sample signal and selecting even said sample signal.

Citation of Pertinent Prior Art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ottosson et al. (Patent No.: US 6,480,558 B1) discloses synchronization and cell search methods and apparatus for wireless communications.

Moon et al. (Patent No.: US 6,741,578 B1) discloses apparatus and method for synchronizing channels in a WCDMA communication system.

Rudolf (Patent No.: US 6,539,032 B2) discloses methods for synchronizing between a base station and a mobile station in a cell-based mobile communications system.

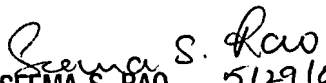
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Andrews whose telephone number is (571) 270-1801. The examiner can normally be reached on Monday through Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rao S. Seema can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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